



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,484	12/09/2005	Oswald Gromer	02897-695US1 06673	8657
26161 7590 08/21/2009 FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022				
EXAMINER				
WON, BRIAN D				
ART UNIT		PAPER NUMBER		
3771				
NOTIFICATION DATE		DELIVERY MODE		
08/21/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary

Application No.

10/531,484

Applicant(s)

GROMER ET AL

Examiner

BRIAN WON

Art Unit

3771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2009.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-76 is/are pending in the application.
4a) Of the above claim(s) 47-67 and 75-76 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 30-46 and 68-73 is/are rejected.
7) ☒ Claim(s) 74 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 13 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 07/25/05.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I in the reply filed on 07/02/09 is acknowledged.
2. Claims 47-67 and 75-76 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 07/02/09.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claims 42-43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Regarding claims 42-46, it is unclear how the nozzle outlet is sized and configured and how it's used such that the cleaning jet is a thin film which is transformed into micro-sized drops after /while exiting the nozzle outlet.
5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 3771

6. Claims 36-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Regarding claims 37-41, it is unclear what disclosed structure the applicant is claiming. Is the applicant claiming the spray nozzle or the mouth rinse? It is noted that "the mouth rinse" is a functionality language for the spray nozzle in claim 30.

Claims 36 recites the limitation "the fluid pressure" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claims 37 recites the limitation "the velocity" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 30-31, 38 and 68-72 are rejected under 35 U.S.C. 102(b) as being anticipated by Soule et al. (6193172).

Regarding claim 30, Soule discloses a spray nozzle which can be used for a mouth rinse comprising a nozzle member (118), a nozzle attachment (112) coupled to the nozzle member to define an axially extending chamber, a liquid duct (172) to supply pressurized liquid to the chamber, a pressure piece (116)

Art Unit: 3771

disposed within the chamber, and a nozzle outlet (146) extending out of the chamber and configured to discharge a cleaning jet.

Regarding claim 31, Soule discloses the first (159) and second end (156) of the pressure piece comprising a cup-shaped portion.

Regarding claim 38, Soule discloses the nozzle outlet (146) sized and configured such that the liquid jet is diverging hollow cone jet (see col. 8, lines 44-52).

Regarding claim 68, Soule discloses a spray nozzle which can be used for a mouth rinse comprising a nozzle member (118), a nozzle attachment (112) coupled to the nozzle member to define an axially extending chamber, a liquid duct (172) to supply pressurized liquid to the chamber, a pressure piece (116) disposed within the chamber, a whirl chamber (153) connected to the chamber to create a circulating flow of the liquid; and a nozzle outlet (120, 146) formed in the nozzle attachment and extending centrally from the whirl chamber and configured to discharge a cleaning jet; the nozzle outlet comprising substantially cylindrical narrow passages.

Regarding claim 69, Soule discloses the nozzle outlet (120) comprising a conical expansion adjacent (122) the passages.

Regarding claim 70, Soule discloses openings(161) extending into the whirl chamber (153) along a substantially transverse direction and with a center offset relative to the longitudinal axis of the whirl chamber, the liquid jet exiting from the openings impacts an opposite wall of the whirl chamber at an angle not exceeding about 45° (see also fig. 14).

Regarding claim 71, Soule disclose a first end (159) of the pressure piece comprising a cup-shaped portion having grooves (161) extending from the chamber to openings.

Regarding claim 72, Soule discloses the second end of the pressure piece (116), opposite the first end, comprising a second cup shaped portion (156) including an interior space (between recessed surface (158) and bore (128)) in fluid communication with the liquid duct (172) as well as with the chamber.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 32-35 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soule et al. (6193172) in view of Farago et al. (5067655).

Regarding claim 32, Soule does not disclose the second end (156) of the pressure piece comprising slits extending axially to provide fluid communication between the liquid duct and the chamber. Farago teaches a pressure piece in fig. 14, with axial slits (42) providing fluid communication to the outlet chamber. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the second end of the pressure piece of Soule with axial slits as taught by Farago for achieving a large whirl channel eccentricity.

Regarding claim 33, Soule discloses a nozzle plate (114) to engage the first end (159) of the pressure piece to define a whirl chamber (160).

Regarding claim 34, Soule discloses the first end (159) of the pressure piece comprising grooves (161) (see fig. 14) extending axially and the nozzle member (118) comprising a circumferential ring (132) adjacent to the grooves of the pressure piece to define ducts for fluid communication between the chamber and the whirl chamber (160).

Regarding claim 35, Soule discloses the nozzle plate (114) comprising the nozzle outlet (146).

Regarding claim 73, Soule does not disclose the second end (156) of the pressure piece comprising slits extending axially to provide fluid communication between the liquid duct and the chamber. Farago teaches a pressure piece in fig. 14, with axial slits (42) providing fluid communication to the outlet chamber.

Art Unit: 3771

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the second end of the pressure piece of Soule with axial slits as taught by Farago for achieving a large whirl channel eccentricity.

13. Claims 36-37 and 39-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soule et al. (6193172).

Regarding claims 36-37, Soule does not specially mention the fluid pressure of the cleaning jet to be at least about 15 bar or the velocity of the cleaning jet to be at least about 23 m/s. However, the spray nozzle of Soule is capable of handling the fluid pressure of such pressure and velocity and the feature of choosing a particular fluid pressure to be at least 15 bar or the velocity of the cleaning jet to be 23m/s is merely a design consideration and it would have been obvious to one of ordinary skill in the art at the time the invention was made to meet the pressure or velocity as desired by the user.

Regarding claims 39-41, Soule does not specifically mention that the liquid duct supplies pressurized liquid to the chamber of at least 15 bar, between 25 bar and 55 bar, or between 35 bar and 45 bar. However, the spray nozzle of Soule is capable of handling the pressure of such pressure of liquid and the feature of choosing a particular fluid pressure or the range of pressure is merely a design consideration and it would have been obvious to one of ordinary skill in the art at the time the invention was made to meet the pressure (or the range) as desired by the user.

Regarding claims 42-43, Soule discloses the nozzle outlet (146) sized and configured such that the liquid jet is diverging hollow cone jet (see col. 8, lines 44-52). Soule does not disclose the cleaning jet is a thin film which is transformed into micro-sized drops after or while exiting the nozzle outlet. The examiner notes that the liquid jet transforming to micro-sized drops from a thin film while/after exiting the nozzle outlet depends on the amount of pressure provided to the spray nozzle. The nozzle outlet of Soule is fully capable of supplying pressurized liquid at the pressure required to transform the thin film to micro-sized drop while/after exiting the nozzle outlet and the feature of choosing a particular fluid pressure for liquid transformation is merely a design consideration and it would have been obvious to one of ordinary skill in the art at the time the invention was made to meet the pressure for liquid transformation as desired by the user.

Regarding claims 44-46, note the rejection of claims 42-43 above.

Allowable Subject Matter

14. Claim 74 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nakamura et al. (3887137), Mao et al. (5152463) and Werding (4260110) teaches spray nozzle creating whirl chamber with pressure piece.

Art Unit: 3771

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN WON whose telephone number is (571)270-7129. The examiner can normally be reached on Monday thru Friday, 9:00 A.M to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu can be reached on (571)272-4835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN WON/
Examiner, Art Unit 3771

/Justine R Yu/
Supervisory Patent Examiner, Art Unit 3771